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Informing Future Ship Design Projects Panel

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Informing Future Ship Design Projects Panel



Moderator: Glen Sturtevant, PEO Ships Director for Science and Technology

Panelists:

Persistent Platforms-The DDG 51 Case

- Dr. Ira Lewis, NPS

Applying Principles of Set-Based Design to Improve Ship Acquisition

- Dr. Eric Rebentisch, MIT

Flexible and Adaptable Ship Options: Assessing the Future Value of Incorporating Flexible Ships Design Features Into New Navy Ship Concepts

- Dr. Johnathan Mun, NPS

Ship Evolutions



Program Executive Office, Ships

Cruisers - Destroyers



DD 963 SPRUANCE
1975



CG 47 TICONDEROGA
1983



DDG 51 ARLEIGH BURKE
1991



DDG 1000 ZUMWALT
2016

Amphibious Ships



LPH 2 IWO JIMA
1961



LHA 1 TARAWA
1976



LHA 6 AMERICA
2014



LPD 4 AUSTIN
1965



LHD 1 WASP
1989



LPD 17 SAN ANTONIO
2006



LSD 36 ANCHORAGE
1969



LSD 49 HARPERS FERRY
1995



LX(R)

Challenges Facing Surface Navy



Program Executive Office, Ships



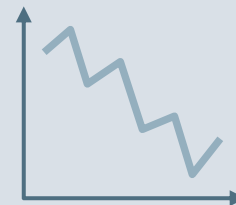
Rapidly Evolving Threats and Missions



Accelerating Pace of Technological Change



Increasing Costs



Readiness

Imperative for Change



Program Executive Office, Ships

- Ships are costly to build and sustain
 - Current cost estimating methods result in minimal displacement ship designs
 - Warfighting capabilities are derived from complex systems
 - Ships are densely packed
 - Ship density is directly proportional to ship design, construction and sustainment costs
- Payloads (capabilities) are strongly coupled to platforms (ships)
- Legacy ship designs have limited allowance margins for modernization
- Closed and inflexible architectures result in lengthy and costly upgrades to ships
- Ships need to stay combat relevant over their *entire* service life or become irrelevant

